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ABSTRACT

Recent needs assessment studies are reviewed, with emphasis on the needs of adult learners and of needs assessors. Three general purposes of needs assessment are described: (1) providers of educational services are interested in what their market (adult population) wants; (2) public agencies are interested in whether or not all segments of the population have equal access to educational programs; or (3) researchers are interested in furthering knowledge about the attitudes and interests of adult students. Brief examples are presented to illustrate what types of information are most useful for each type of needs assessment. Only one-third of the studies reviewed have effectively used the data they collected. Certain conclusions are predictable from any needs assessment because they have been replicated so often: level of educational attainment is a positive predictor of interest and participation in further education, and interest and participation drop sharply after age 55. Respondent's opinions are shaped by their current perceptions, rather than by their ability to imagine what might exist in the future: the surprising success of the Elderhostel concept illustrates this problem. Four types of needs assessment errors are discussed: relativity: interpretation: lumping: and consideration of the small picture. (GDC)

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THE STATE OF THE ART IN NEEDS ASSESSMENTS

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Needs assessments are, to put it mildly, "in" these days. Almost every planning office, whether statewide or institutional, has done one, will do one, or is thinking about doing one. It is a perfect time for those in the planning or thinking stages to profit from both the knowledge and mistakes made by those who went before you. For certainly they left a fascinating trail of information about the educational needs and interests of adults, plus some valuable insights about the dos and don'ts of needs assessments.

My task this morning is to extract, from some 40 major studies that have been done over the past five years, some of the highlights about both the process and the products of needs assessments. We have probably learned more about needs assessments than from them, but so far I, at least, have given more attention in papers and speeches to what we know about adult learners and their needs (Cross, 1978a, b; Cross, 1979a, b; Cross and Zusman, 1979) than to what we know about needs assessors and their needs (Cross, 1979b). This conference gives me an opportunity to right the balance.

It is something of an oversimplification, but basically those who conduct needs assessments do so for one of three reasons. First, there are the providers of educational programs and services. They are usually found in the

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administrative offices of colleges and universities, and their purpose in conducting a needs assessment is to gauge the size and interest of the potential market for their services. Some providers are frankly seeking to identify new adult markets to fill the seats left vacant by the diminishing 18-24 year old student population. Others have identified a prospective target group, such as reentry women or the elderly, and are attempting to determine the needs of that group. In any event, providers of educational programs generally conduct needs assessments that are closely akin to market surveys--i.e., questionnaires or interviews to determine what people want.

The second purpose of needs assessors is illustrated by those who are responsible for public policies and educational planning. These needs assessors are usually found in the offices of state and federal agencies and sometimes in colleges with a specific mission or desire to serve the needs of the community. Their purpose in conducting a needs assessment is to see that all segments of the population have fair and equal opportunities to participate in educational programs that best meet their needs. Their needs assessments are more like policy studies than marketing surveys.

Finally, there are researchers who get into needs assessments because they are interested in knowledge and in understanding adults and their attitudes and interests regarding further learning. They are usually found in university departments of psychology, sociology, gerontology, education, and in other research organizations. Researchers can be subdivided almost endlessly according to discipline, methodology, theory, and the like, but those involved in needs assessments are primarily interested in describing the attitudes and self-perceptions of the respondents. Some attempt to relate these measures to

various hypotheses or theories about the education of adults; others content themselves with descriptive studies. Their needs assessments are more like survey research than like market analyses or policy studies.

These three categories are not mutually exclusive; indeed most needs assessments have elements of all three purposes in them. Ultimately, the single over-arching purpose that we hope pervades all reasons for conducting needs assessments is to discern the educational needs of potential students so that we may serve them better, and through them, better meet the learning needs of our collective society. Nevertheless, a needs assessment designed for one purpose is not maximally effective when it is modeled after a needs assessment designed to accomplish some other purpose.

Let me give a concrete example of the simple differences in information needs between a provider of educational services and a state planner charged with securing equal educational opportunities for all citizens. Of the 40 major needs assessments that I have reviewed (Cross, 1979a), I can't think of one that failed to analyze responses by sex, and I can think of only one that used subject matter interest as the independent variable. From the perspective of the state planner, it is important to have a profile of women's interests and participation in various kinds of learning opportunities. Offices charged with public trust have an obligation to assess needs by race, sex, age, family income, educational attainment, and any other variable that is known to play a significant role in educational opportunity. But from the perspective of the provider of educational programs, these exceedingly common demographic descriptors may not be as useful as data arrayed so as to provide a profile of adults who express an interest in a particular course of study.

If, for example, I am the dean of Podunk College, and I want to know the potential market for an introductory course in child development, it would be nice to have the needs and interest profile of all those expressing interest in child development. Who are they? Where do they live? Do they have children? How old are they? How many are single parents? Are they professional, clerical, or blue collar workers? How do they find out about adult educational opportunities? Do they subscribe to a daily newspaper? Which one? What do they read in it? Do they watch television? Have they ever taken a course in adult education? Where? What worries them about raising children today? What is important to them in the learning environment? Do they want an exchange of experiences with other parents or lectures from an authority figure? What kind of schedules do they need? How much would or could they pay? What kinds of counseling, transportation, child care, or other auxiliary services do they need? The list of important questions about a group of people who might meet together to pursue a common interest is seemingly endless; but the needs assessment that provides a profile of people who share a common subject matter interest is rare indeed. The best our aspiring program planner can do is to observe from the myriad of surveys that offer profiles by sex, race, and age that women are more interested in child development than men, that there is no difference among the races, and that people in their 30s are more interested than those in their 60s in taking a course in child development. That is not very adequate information for the needs assessor whose major interest lies in planning and marketing educational services.

If the assessor in this example had designed and analyzed a survey more suited to his needs, he could have obtained information that helped determine

how the course should be structured, how and where it should be advertised to reach the target population, when and where it should be offered to provide convenience to the largest number of potential students, what auxiliary services would be required by students, and what other courses they might take concurrently or once they had tried child development. He could do all this with very little additional expense and still have all the information that is required to offer equal educational opportunity.

The point is that all too many people conducting needs assessments these days take a questionnaire or interview schedule that has been designed by researchers, modify it a little, analyze the data in standard catagories such as age, sex, and race, duly report the results, and only then begin to wonder what to do with the information.

The time to worry about implementation is at the beginning rather than the end of the data collection. One question that should be asked of each item in the needs assessment is, What would we do differently if we knew how potential learners responded to this question? Let us suppose, for example, that from a standard needs assessment, you find out that women are more likely than men to favor daytime schedules. Unless you are planning a program for women or wish to assess how well the needs of women are currently served, that is a fairly useless bit of information. What the provider really wants to know is, What are the needs and interests of people who prefer daytime schedules? Such information leads directly to planning a daytime schedule of courses and services that meet the needs of an identifiable group of learners--most of whom could be women, but increasingly are more likely to be older people of both sexes.

This particular example illustrates the failure of Category I needs assessors, i.e., the providers of educational services, to define their own needs for information before embarking upon the more technical task of assessing the needs of learners. In this case, the common error is to present learner profiles in demographically convenient categories instead of in educationally relevant categories such as subject matter interest, educational goals, scheduling needs, or preferred instructional formats.

The state of the art is considerably more advanced for Category II needs assessors, i.e., state planning officers. I think it is fair to say that after five years of intensive activity, we have a very good baseline of knowledge about which population groups are served well and which are served poorly by existing adult educational opportunities. We know how women differ as a group from men in their educational needs and interests, how high school graduates differ from college graduates, how 70 year olds differ from 30 year olds. There is no evidence that such differences are regionally unique, and little is to be gained from further needs assessments patterned after the state studies already available. The need now on the part of state planning offices is for more targeted studies about groups shown to be educationally disadvantaged. The groups shown to be underrepresented in virtually all of the existing studies are these: Ethnic minorities, the elderly, people with less than a high school education, rural populations, and those with annual incomes of less than $8,000 (Cross, 1979a).

I won't go into any detailed analysis of the progress of Category III needs assessors except to observe that researchers interested in extending the frontiers of knowledge have not yet capitalized on the opportunity to relate

findings from the needs assessments to any existing body of knowledge or theory about adult learning and motivation.

In sum, my assessment of the state of the art is that so far needs assessments are batting about one out of three in making good use of the data collected. I say "making good use of the data collected" because in many cases the things people worry about in needs assessments, such as the representativeness of the sample or the design of the interview, are given far more attention than the analysis and interpretation of the responses. We have spent considerably more time and money collecting the data than interpreting and using it. I will say more about interpretation and use later, but first I want to spend some time this morning talking about what we know from the needs assessments that have been conducted so far. Along the way I shall attempt to point out what we could have known and what we have learned in general about the state of the art in needs assessments.

We know a great deal about the characteristics of the current participants in adult education and about what people say they want in the way of adult learning opportunities. We know it from the Triennial Surveys conducted in 1969, 1972, and 1975 and analyzed and distributed by the National Center for Education Statistics (Okes, 1971; Okes, 1976; Boaz, 1978). We also have good information from two national survey research studies, one done by Johnstone and Rivera in 1961-62 at the National Opinion Research Center and one done a decade later by my colleagues at Educational Testing Service (Carp, Peterson, and Roelfs, 1974). Finally, we have good data from some 40 state and regional studies, most of them conducted between 1975 and 1978 (Cross, 1978a; Cross, 1979a; Cross and Zusman, 1979).

Our heritage from the substantial amount of investment of time and talent in needs assessments is that we know what we can know from these particular models almost beyond a shadow of a doubt--which is a strange and wonderful thing to say about any knowledge in the social sciences these days. The reason I dare to make such an assertion is that some findings are replicated in virtually every study regardless of the sample or the methods of data collection. If you were to survey any reasonably representative sample of the adults in your community, I could predict with high accuracy the results of certain aspects of your needs assessment before you conducted it. I know of no study, for example, that has reported any data to contradict the assertion that the more education people have, the more they want and the more they are likely to participate in available opportunities. Level of educational attainment is one of the best predictors of both interest and participation in future learning activities. A high school graduate is about twice as likely to continue learning as an adult with an elementary school education, and a college graduate is about twice as likely as a high school graduate to be a participant in adult learning activities (Carp, Peterson, and Roelfs, 1974; Boaz, 1978; Cross, 1979a).

The policy implications in the consistency of these findings are profound because it means that it is the already well-educated who are seeking further educational opportunities, and it probably means that as more opportunities become available, it is the well-educated who will have the motivation, background, money, and information networks to take advantage of further education. The poorly educated, whom policy makers and many educators would most like to reach, will fall farther and farther behind. Given the

inevitability of that conclusion--at least under prevailing conditions--it would be a contribution for someone to forgo yet one more reverification of the troublesome finding that there is a positive correlation between educational attainment and adult participation and devote more in-depth attention to the needs and motivations of adults with a high school education or less. Many of these potential learners have had poor experiences with school in the past, which is no doubt why they left school early and are reluctant to return. How accurate are their perceptions of educational opportunity for adults today? Some, we know, cite the cost of education as a problem, yet there is more than a hint in the data that few have been sufficiently interested in further education to find out about cost. Do adults with a high school diploma, for example, know that in my community they can study almost anything they could think of studying, from soapstone carving to Shakespeare for less than $20 a term, and many subjects for nothing? A good needs assessment should provide more than a description of what people say they want; it should give some clue about how much they know about existing opportunities and how we might go about reaching them with more appropriate opportunities and better information.

A second universal finding of the studies conducted to date is that interest and participation in adult learning decrease with increasing age. Participation starts to decline as people approach the age of 40 and drops off sharply after age 55 (Cross, 1979a). A 30 year old, for example, is about four times as likely to be engaged in some form of adult learning activity as a 60 year old (Boaz, 1978). It is clear that today's learning force is dominated by young, well-educated adults, with good incomes and good jobs.

There is, abroad in the land, the powerful conviction that education is a "capital investment" and that such an investment is justified only when there are enough years remaining in life to reap a monetary return on the investment. The primary reason given by older people (65 and older) for their lack of interest in further learning is that they are "too old" (Hefferlin, Peterson, and Roelfs, 1975; Hoyt, 1975; Cross, 1979a). At first blush, one might think that the elderly feel that their minds are too old to grasp new ideas or their bodies too weak to make the effort. But few cite health as a primary deterrent, and while some lack confidence in their ability to compete (which correctly or incorrectly, they perceive as a necessary evil of educational participation), many older people simply fail to see that education, as they know it--or knew it--has anything to offer them (Kovenock, 1978).

Yet as we look to the future, one of the most interesting and one of the most essential markets for adult learning activity is the escalating number of older persons. Everyday approximately 4,000 Americans turn 65, a figure that will double just after the turn of the century. Projections indicate that the total population in the United States will grow by about 57 percent between 1970 and 2050, but for those 65 and older, the growth rate will be 145 percent.

The interesting potential of the elderly as a learning market, offering opportunity as well as responsibility to educators, is that they are a distinctive subgroup of the population that do not offer one of the two major barriers to continuing education that show up in virtually every needs assessment. "Lack of time" and the "cost of education" usually vie for first and second place as major deterrents to adult education (Cross, 1979a). Time for learning is not often cited by older persons as a problem, nor despite

their low and fixed incomes, is cost. Cost is much more frequently perceived as a problem by young people, and lack of time is the seemingly universal problem for those in their 30s and 40s who have young families to support and careers to advance. For older people, the chief deterrent to their participation in adult learning activities seems to be a failure to perceive that education has anything to offer that would be useful at their stage of life.

This brings me to one of the major problems that has rarely been discussed openly midst the current ferver to conduct needs assessments as a basis for educational planning. Needs assessments are necessarily based on the current perceptions and understandings of the respondents. They are better at telling what is than what might be.

Suppose General Electric had set out 50 years ago to conduct a survey of what customers said they wanted in the way of improved methods for the preservation of food. I would guess that their needs assessments would have shown that the major demand was for cheaper ice for their ice boxes and perhaps for more frequent and more reliable delivery of ice. There would have been no demand for an electric refrigerator because the average consumer had no notion of what a refrigerator was or how it could work. Moreover, the experience of people with frozen foods was limited to spoilage by freezing; there was no frozen food technology, and the progressive salesman with frozen food for sale would have been laughed out of town. It was only after the electric refrigerator was invented by someone who saw a need not recognized by consumers that a refrigerator became a near-universal need.

Needs assessments have had difficulty introducing new concepts and new ideas to respondents. Most new services dreamed up by imaginative educators

have not reached an impressive demand count in the needs assessments. This results in the general conclusion that adults are rather conservative in their educational demands and would prefer not to try anything new. There is good experiential evidence, however, that adults are looking for new kinds of educational experiences, but like the refrigerator, such innovations are more likely to be recognized when they appear than to be demanded in the abstract.

We have a good example now of the failure of needs assessments to predict the success of the Elderhostel program. Elderhostel is a consortium of colleges offering week-long mini-courses in the summer to older people. Students live in the dormitories, eat in the cafeteria, take college level courses taught by college professors on a college campus.

Almost everything in the descriptive needs assessment that is the prototype today would have argued against the success of Elderhostel. In the first place, the data show clearly and consistently that people over the age of 55 constitute the poorest market of all age groups for educational programs. Thus, no educational marketer up on the latest information from needs assessments would set out to tap the least likely market. Secondly, one of the most common barriers to educational involvement for older people is problems with transportation to the campus. What madness then to devise Elderhostel that is heavily dependent on getting older people to travel, not just across town, but hundreds and even thousands of miles to a college campus. Thirdly, college courses taught by college professors rank near the bottom of all types of learning experiences desired by older people. Most needs assessments show arts and crafts to be the preferred subjects of the elderly, and socially interactive formats are generally preferred over lectures.

Finally, although the cost of the Elderhostel week is low for what it is--room, board, and tuition--it is certainly not low cost adult education, costing around $100 per week plus travel.

With all these things wrong with Elderhostel, most needs assessments would predict almost certain failure. Yet the program has had spectacular success, growing from five colleges and 200 participants in 1974 to 129 colleges and 11,000 students today. What is wrong with the needs assessments that they should appear so far off the mark? There are a number of lessons to be learned about the interpretation of data from this simple example of the strange success of Elderhostel.

First, there is the lesson of relativity. The number of older people who express an interest in learning is small relative to other age groups. But even if only 9 percent of the respondents over the age of 55 are interested in further education, remember that 9 percent of a national sample representing 104 million adults (Carp, Peterson, and Roelfs, 1974) is still over a million people, and even if only a miniscule 3 percent of them are interested in college level courses, that is still a potential market of 300,000 people for Elderhostel.

I shall label the second lesson about the use of needs assessments to plan educational programs the interpretation error. It is vividly illustrated by the apparent folly of the designers of Elderhostel to note that most needs assessments show that transportation to educational sites is a common barrier for older people. There is, however, an individual perception behind every response. Many older people perceive getting to a campus at night by bus or car once a week a "transportation problem" whereas driving a couple hundred

miles across scenic New Hampshire countryside on a summer vacation to attend Elderhostel is not considered a transportation problem. Similarly paying $50 for a semester-long course might be perceived as a cost barrier, but spending $100 a week for a learning vacation can be interpreted as a genuine bargain.

The third error commonly made in interpreting needs assessments is the lumping error. Most needs assessments are currently lumping everyone over the age of 55 or 65 together in a group labeled "the elderly." They do this because the numbers in the cells of the older age groups are usually small, and a larger N is needed to give reliable figures. The problem is that in solving the statistical problem of a too-small N, a new problem is created when dissimilar groups are merged.

Bernice Neugarten (1975) says the young-old represented by people between the ages of 55 and 75 are a very different group from the old-old who are people over the age of 75. The young-old are in good health, have better educational backgrounds, and a more lively outlook on life than the old-old. It is the young-old who constitute the chief constituency of Elderhostel, but because of the lumping error in needs assessments, the young-old are not a visible group; they appear at the old end of the age spectrum and hence are categorized and pictured as "elderly." The lumping error also occurs consistently in needs assessments purporting to show sex differences in learning needs. There is evidence that the educational needs and interests of working women are more like those of working men than they are like those of other women. Lumping women together as a category makes it appear that there

are sex differences in learning needs when, in fact, the differences are more probably attributable to differences in learning goals.

Finally, there is the small picture error. Data from the needs analyses come in small fragments, but an educational program is more than the sum of its parts. Elderhostel apparently offers an atmosphere of friendly conviviality with interesting people from all over the country, and it is the total experience rather than the classes per se that are the primary attraction.

All of these possible errors serve to illustrate the point that statistical technique and research know-how do not suspend the need for sensitive interpretation of the meaning behind the data. My remarks today are deliberately entitled "The state of the art . . .," rather than "The state of the science" of needs assessment because conducting and utilizing survey information is as much an art as a science. The needs assessor needs the sensitive observations and experience of the adult educator as much as the adult educator needs the technical expertise of survey researchers. But what all of us need is more imaginative creative approaches to the art of needs assessment. Although I had nothing whatever to do with selecting the needs assessment models that are featured at this conference, I am struck by the observation that the one thing these four very diverse approaches have in common is that they knew what they wanted to accomplish. They assessed their own needs for information before embarking upon their needs assessments.

As I look back over the needs assessments of the last five years, I think the greatest inadequacy has been, not in the technical niceties of research design, but in the failure to assess the information needs of the needs

assessor and then to design a method of data collection appropriate to those needs.

The study conducted by Griffin Murray (1979) is a splendid example of what can be done when the problem is defined first and the study designed around that problem. The usual questionnaire or telephone interview survey would have been quite inappropriate for assessing the learning needs of the severely educationally deprived citizens of West Oakland. Thus a continuous callaborative process was devised in which adults are helped to conduct a self-inventory of their educational needs, and community workers are fully involved in the assessment, planning, and evaluation stages. In this way, the educational program developed by Holy Names College literally evolves out of the needs of the people and the community, and assessment, program planning, and evaluation are integrated into one continuous process.

This particular design also has a built-in answer to two of the most troublesome problems in needs assessments--how to convert the data into workable educational programs and how to gain acceptance in the community. When those implementation questions become an integral part of the needs assessment, there is no need for the overworked four-step approach, which is to conduct the needs assessment, develop a program on the basis of the information, market the program and conduct an evaluation. I say the four-step approach is overworked, but I probably should say that it is "over-aspired" to. What happens, all too often, is that the needs assessment ends after Step 1, and Steps 2, 3, and 4 are never realized.

This may be a good time to point out that Step 4, evaluation, is a critical component of any program designed to serve the needs of adult learners. The neat

thing about Ms. Murray's design is that evaluation is built in so that it serves as a continuous needs assessment. The purpose of a needs assessment, after all, is to identify needs that are not being met, and unmet needs may be as prevalent among enrolled students as among potential learners.

As fine as Ms. Murray's approach to needs assessment is, it would not be appropriate to the task that the New York State Education Department (Veres, Mangano, Freeborne, 1979) wanted to accomplish. Their approach to needs assessment represents a Category II need, i.e., the need of a state educational planning office to identify the needs of adult learners and the barriers to their participation across the state. They, like Ms. Murray, used a collaborative approach, involving local school districts, Boards of Cooperative Educational Services, and two-year colleges. The contribution of the State Education Department was in the research expertise, management and coordination of a massive interview study of some 20,000 New Yorkers.

Falling between the small intimate West Oakland study and the massive New York State effort are the other two needs assessments featured at this conference. They too had a clear notion of what they wanted to accomplish. Dr. Cohen (1979) identified a serious problem which was that dramatic changes in health care in the United States have resulted in a lack of congruence between the past training of nurses and the jobs they are expected to perform in today's health profession. Implementation of her study should not be difficult because her needs assessment was designed to shed light on a problem that was already widely recognized in the nursing profession. Similarly, Dr. McClain (1979) identified the target population of reentry women as a group of adults whose changed life circumstances created a demand for new educational experiences.

In general, a needs assessment that sets out to solve a problem will be far easier to implement than a needs assessment that sets out to find a problem. To date, however, there are more studies in search of problems than in search of answers--which is not to say that we don't need both kinds of studies. It is to suggest, however, that future needs assessments might make more significant contributions by starting with problems already identified in the large number of state needs assessments, and moving toward the search for program components that will meet the needs of identified target groups. In the long run, a study motivated by the desire to serve the needs of learners will probably be more successful than a study motivated by the desire to "collect data," "do a study," or "engage in long-range planning."

If you came to this conference with your needs for information clarified, I hope that you can use the conference to help you design a competent study technically. If you came with the intention "to do a competent study" I hope that you will use the conference to clarify your needs for information. Both are important aspects of needs assessments, but so far, the science of needs assessment is considerably ahead of the art, and my hope for the future is that we may achieve a better blend between the art and the science of needs assessment.

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